

Data Analysis and Probability
Lesson 32: Predicting from Data
Math for Standards

Name _____

Date _____

Predictions can be made based on _____. Predictions
will give you a good idea of what an outcome _____.

_____ is a way of gathering information.

A good type of sampling is _____ sampling, where there is an equal chance
of being selected for each member of the population (the population is the entirety of
things you are looking at).

A sample of a population can be written as a _____. Use equal ratios to determine
what will happen for the entire population.

These results can also be used to find _____.

If all you have is a set of data, you can use it to find _____ so you can
make _____.

Look for patterns you are familiar with: _____.

Once you think you have found a pattern that works, test it on _____
_____. If the answers are really close, you probably have a good pattern.

When you apply the pattern, make sure the answers _____.

Example 1: A radio station held some focus groups to determine how viewers felt about their new show, *Hey! It's the Matt Mitarnowski Show!* The results are as follows:

Response	Loved it	Pretty good	Barely okay	Hated it
# responding	124	86	53	37

What is the probability that a randomly selected person from the focus group:

- a. Loved the show? b. Thought the show was pretty good?

- c. Thought the show was barely okay? d. Hated the show?

- e. The station plans to test out the show in a city that has a population of 54,000 people that watch TV. Out of that population, how many people should the station expect to love the show?

Example 2: The table shows how much a population of bacteria grows in 5 hours. Use the data to answer the questions.

Hours	1	2	3	4	5
Population	350	1400	3150	5600	8750

- a. Find an equation that models the situation. You might need to graph the data to find out what kind of pattern exists.

A full-page sheet of white graph paper with a light gray grid. The grid consists of small squares, approximately 10 units wide by 10 units high. There are no margins or additional markings on the page.

- b. The population is going to be observed for 20 hours. How many bacteria should there be at the end of the 20th hour?